

logical Society (1916) consists of a paper by Ezra Townsend Cresson, entitled *The Cresson Types of Hymenoptera*, giving an alphabetical list, under each family, of the species described by him, with reference to the original description, sex, number of the type-specimen, as recorded in the catalogue of types in the collection of the society, locality and condition of the specimens as found during the winter of 1913-14. It is there stated that types of 2737 species are enumerated. Following it is a list of the author's entomological writings "arranged in chronological order and numbered consecutively, to enable the student to locate the papers in which the types are described."

Method and order were among the most marked characteristics of Ezra T. Cresson and this paper of 1916 furnishes an almost complete guide and index to his original work on the insects he studied so faithfully.

Further details of his entomological labors are reserved for publication in the society's *Transactions*. Any one having letters from him which would add to the value and interest thereof are requested to lend them to the Editor of the NEWS for copy or extract. Such will be returned promptly.

Some New Miridae from the Eastern United States.

BY W. S. BLATCHLEY, Indianapolis, Indiana.

During the continuation of the work on my Manual of Heteroptera I have found in my collection of Miridae, or among those sent me for examination, a number of species which are apparently new to science. Of these six are named and characterized in the present paper. Unless otherwise stated the types are in my private collection.

Subfamily CAPSINAE.

Paracalocoris novellus sp. nov.

Elongate-oval. Dark fuscous-brown to black; head with a vague pale spot each side of base of vertex; eyes brown with a pale curved line behind and beneath; pronotum fuscous or blackish with a wide median orange-red cross-bar, this widened on sides to cover side margins behind the collar and with median ray projected backward, the latter sometimes

reaching on to scutellum and dividing the black of basal half of pronotum into two large spots; concavities behind calli present but without black spots; scutellum either wholly dark or orange-red with dark side margins; elytra wholly black, the membrane fuscous; legs black or fuscous, the basal halves of femora sometimes orange-red; tarsi fuscous-brown or paler; antennae black with apical segment dull white, the basal segment sometimes with an orange base.

Joint 1 of antennae about as long as pronotum, thickly clothed with long, forward-inclined, bristle-like hairs; 2 nearly twice as long as 1, 3 slightly shorter and distinctly stouter than 4. Pronotum and elytra thinly clothed with very fine, grayish, appressed hairs. Hind tibiae with scattered hairs which in no way obscure the spines. Length to tip of membrane, 7.5-8 mm.

Dunedin, Bassenger and Lake Wales, Florida, February 27-April 19. Nine examples beaten from foliage of oak and bay along the margins and paths of dense moist hammocks. Easily known from all described North American species by the pale fourth antennal, lack of discal black spots and peculiar markings of pronotum. *Type*, a female, taken at Dunedin, Florida, April 10, 1922.

The only species of *Paracalocoris* of which I can find definite mention from Florida is *externus* (H. S.), which Walker (1873, 91) records from St. John's Bluff and which Van Duzee places as a variety of *scrupus*. McAtee does not include it in his recent Monograph and doubts its being a member of the genus.

Polymerus clandestinus sp. nov.

Elongate, subparallel. General color above fuscous-black; head with tylus shining black; cheeks, lorae, a spot on middle of vertex and another near each eye, dull yellow; pronotum fuscous-black, the collar, edges of side margins, area in front and each side of calli and a backward projecting ray between them, dull yellow; tip of scutellum yellowish; outer half of clavus and basal fourth of corium usually more or less dull yellow; embolium, anal ridge, outer apical angle of corium and tip of cuneus also yellowish; membrane a uniform translucent fuscous, feebly iridescent, the veins yellow; legs dull greenish-yellow; hind femora with two rows of small, vague, brownish dots on outer face and usually a brownish ring near

apex, sometimes in great part fuscous-brown; tips of tarsi and beak fuscous; under surface dull yellow, the pleura and side margins of ventrals more or less fuscous. Joint 1 of antennae yellow, fuscous near base and apex, three-fourths as long as basal width of vertex; 2 yellow, the apical fourth black, three and one-half times longer than 1; 3 fuscous, yellow at base, one-third longer than 4, the two united two-thirds the length of 2. Upper surface sparsely clothed with deciduous, appressed, scale-like, yellow hairs, these usually condensed to form small patches on clavus and corium. Pronotum of the usual form for the genus, the calli small but distinct; disk very finely rugose, with minute punctures between rugae. Scutellum finely transversely rugose. Clavus and corium very finely punctuate. Beak reaching hind coxae. Length 3.5—3.8 mm.

Royal Palm Park, Canal Point and Fort Myers, Florida, March 4—April 8; swept in some numbers from low herbage growing in moist mucky places. Allied to *P. basalis* (Reut.), but smaller, more parallel, without reddish marks, the second joint of antennae much more slender and a brighter yellow, the pale markings of pronotum distinctive. *Type* a female taken at Royal Palm Park, Fla., March 30, 1925.

Subfamily ORTHOTYLINAE.

Pilophorus brimleyi sp. nov.

Elongate, constricted behind the middle. Head, pronotum and scutellum dark blackish-brown, shining; clavus with inner basal third and apical half velvety black; remainder, consisting of an inverse wedge-shaped spot on outer basal third, which extends back and broadens between the two velvety ones, covered with a bluish bloom; corium without a trace of the usual sub-basal whitish cross-bar of the genus, the one on apical third present but short, not reaching claval suture and enclosed by a small bluish area, narrow basal half and a broad cross-bar just behind the white one velvety black, area behind the velvety bar and the entire cuneus steel-gray; membrane dusky-translucent, the cells and a spot behind tip of cuneus darker; femora dark brown, shining, knees and tips of coxae yellowish, tibiae and tarsi pale brown; pleura dark brown, ventrals shining black.

Joint 1 of antennae brown, paler at base and tip, slightly shorter than width of base of vertex; 2 brownish-yellow,

darker toward apex, gradually thickened from the base, four times as long as 1; 3 dull yellow, minutely pubescent, two-fifths as long as 2; 4 missing. Pronotum campanulate, basal portion strongly and evenly convex, little longer, but much wider and higher than front one, minutely granulate or subalutaceous. Scutellum small, moderately convex. Elytra strongly constricted, the basal half of corium less than half the width of apical third. Hind tibiae, male, almost twice as long as femora, very slender, slightly flattened, feebly curved. Length 6 mm.

Type, a male in the collection of the Division of Entomology, State Department of Agriculture, Raleigh, North Carolina. Taken at Windsor, North Carolina, July 7, 1925. Named in honor of C. S. Brimley, of Raleigh, who has done much to increase our knowledge of the insects of his State, and who has furnished many specimens to aid my work on Heteroptera. It differs from all described forms of the genus in having but one whitish cross-bar on corium, in the form of the bluish bloom-covered spot on clavus, in the distinctly bell-shaped pronotum and very narrow basal half of corium.

Subfamily BRYOCORINAE.

***Pycnoderes convexicollis* sp. nov.**

♂—Elongate-oval. Head in great part fuscous, the cheeks and a stripe each side of vertex dull yellow; pronotum and scutellum shining black with a faint brassy tinge, very sparsely pubescent with fine prostrate hairs; elytra opaque with a bluish bloom covering most of the surface, cuneus, a large oblong spot near base of embolium and a smaller oval one near its apex pale yellow; apical half of membrane dusky yellow, its veins and a spot at base dark brown; femora dark brown to blackish, paler at base, tibiae pale brown, yellowish toward tips, coxae and tarsi pale yellow, claws fuscous; under surface black, sterna coarsely punctate, ventrals shining, almost smooth, minutely pubescent.

Joints 1 and 2 of antennae pale yellow, 1 three-fourths as long as width of vertex, 2 nearly three times as long as 1, 3 and 4 dusky, subequal in length, each about as long as 2. Pronotum with sides and base subequal in length; calli larger and much more prominent with median groove of basal half deeper and lateral impressions better defined than in either of our other eastern species; hind margin almost straight.

feebly notched at middle; embolium slightly narrower with margin less curved than in *dilatatus* and with only a trace of the transverse rugae of that species; membrane surpassing abdomen by two-thirds its length.

♀—Shorter and more broadly oval than male; color much the same. Gibbosity of pronotum higher, with median groove distinctly deeper, the sides and base more abruptly declivent and lateral impressions better defined. Elytra distinctly shorter; embolium slightly wider and more reflexed, its margin more strongly curved; membrane surpassing abdomen by less than one-third its length. Length, ♂ 3.5—3.8 mm.; ♀ 3—3.2 mm.

Marion, Putnam, Knox and Posey counties, Indiana, April 26—September 19; swept in numbers from low herbage in dense upland woods and in thickets along the banks of streams. *Type*, a male taken in Putnam Co., Indiana, August 9, 1925.

Our three eastern species of *Pycnoderes* may be separated by the following:

Key to Eastern Species of Pycnoderes.

a. Legs pale yellow, the apical third of hind femora alone darker; second joint of antennae subequal in length to width of head; veins of membrane not distinctly darker than the disk.

b. Embolium with a distinct apical or subapical pale spot; costal margin of elytra feebly curved; pronotum thickly pubescent; length 3.2 mm.

QUADRIMACULATUS Guerin

bb. Embolium with subapical pale spot very small or wanting; costal margin of elytra strongly curved; pronotum with pubescence scarcely evident; length 3.5—4 mm.....DILATATUS Reuter

aa. All the femora in great part or wholly blackish-brown, tibiae pale brown; second joint of antennae distinctly longer than width of head across eyes; veins of membrane dark brown.....CONVEXICOLLIS sp. nov.

Sixenotus albicornis sp. nov.

Closely allied to *insignis* Reut. Form more elongate and subparallel. Head and pronotum shining black, devoid of the subaeneous tinge of *insignis*. Elytra dark piceous-brown, opaque, subtranslucent, minutely pubescent. Antennae and legs a uniform very pale yellow or milky white; membrane with cells dark fuscous, apical half dull white, veins blackish.

Pronotum relatively longer and narrower in front than in *insignis*, its disk more distinctly obliquely strigose with rows of punctures between the strigae, the punctures coarser and less dense than in *insignis*. Length 3.3—3.5 mm.

Palmdale, Moore Haven, Royal Palm Park, Everglades and Dunedin, Florida, November 19—April 23. Hibernates beneath boards and between basal leaves of sedges and in spring swept from herbage along the margins of wet hammocks. *Type* a male from Dunedin, Fla., taken March 28, 1921.

***Sixenotus gracilis* sp. nov.**

Oblong-oval. Head, pronotum, scutellum and under surface black, distinctly bronzed; joints 1 and 2 of antennae, embolium and legs yellow, cuneus, membrane and dilated apex of embolium white; veins of membrane and joints 3 and 4 of antennae fuscous-brown.

Eyes larger and vertex narrower than in our other three species. Joint 1 of antennae relatively stout, cylindrical, three-fifths the length of 2; 3 and 4 more slender than in *insignis*, subequal, each slightly longer than 2. Pronotum with basal lobe narrower, more convex, more finely and densely punctate than in either of the others, the basal margin broadly rounded or subtruncate. Elytra and ventrals sparsely clothed with minute golden yellow hairs. Length 2.4—2.6 mm.

Fort Myers and Hillsboro Canal, Florida, March 4—24. The type was sifted from the debris on the mucky bottom of an extinct wet weather pond at Fort Myers. Easily known by its small size and pale embolium and cuneus. *Type*, a female taken at Fort Myers, Fla., March 4, 1921.

The four eastern species of *Sixenotus* are separated as follows:

Key to Eastern Species of Sixenotus

- a. Antennae and legs not wholly black; elytra very finely and indistinctly pubescent.
 - b. Cuneus and embolium black; basal joint of antennae distinctly shorter than width of vertex; larger and more robust; length 3.3—3.5 mm.
 - c. Antennae in part black or fuscous; legs dull yellow more or less tinged with fuscous; middle and hind tibiae with two vague-brown annuli. *INSIGNIS* Reut.

cc. Antennae and legs wholly milky white or very pale yellow, tarsal claws alone darker.

ALBICORNIS sp. nov.

bb. Cuneus white, embolium pale yellow; basal joint of antennae slightly longer than width of vertex; smaller and more slender, length 2.4—2.6 mm.

GRACILIS sp. nov.

aa. Antennae and legs wholly black; elytra coarsely and distinctly pubescent; length 2.8—3 mm.

TENEBRUSUS Distant

Observations on the Life-Histories of Two Species of Praying Mantis (Orthopt. : Mantidae).

By MARY DIDLAKE, Lexington, Kentucky.

(Plates VII, VIII.)

Two species, the common *Stagmomantis carolina* and a big Chinese species, *Paratenodera sinensis*, have been reared in the laboratory of the Department of Entomology and Botany, of the Kentucky Agricultural Experiment Station, and carried through several generations in as many successive years.

The egg-mass of the foreign species was found May 8, 1917, on a shrub in the nursery of Wood, Stubbs & Co., Louisville, Kentucky, and brought to our laboratory by Mr. H. R. Niswonger. The shrub had been received either in a European shipment or one from the Eastern States, where this insect has been recorded as having been established.

It was found possible to rear the species from time of hatching until maturity as described below, molting, mating, egg-laying, regeneration of injured limbs and antennae being easily observed.

REARING.

Eggs taken from twigs out-of-doors, or laid in the laboratory were placed outside all winter. When they began to hatch, in May or June, individuals were isolated in homeopathic vials, tightly stoppered. These vials were handled in wooden vial racks holding about a dozen. In each vial a strip of filter paper furnished a support to which the baby mantis could cling.

About the third molt the vials became rather close quarters